ENVIRONMENTAL
Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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Asbestos: General Information for Handling and Disposal

General

Asbestos has been used commercially in this country since 1880. A naturally occurring mineral, it became a popular product because it is non-combustible, resistant to corrosion, has a high tensile strength and low electrical conductivity. These qualities, combined with its relatively low cost, resulted in the development of an estimated 3,600 different commercial products containing asbestos.

As a natural mineral, asbestos is not water soluble and does not move through groundwater to any appreciable extent. Based on studies of other water insoluble particles of similar size, the expected migration rate is approximately 1 to 10 centimeters per 3,000 to 40,000 years. Thus, asbestos is not considered to be a significant groundwater contaminant.

Although asbestos does not "move" with groundwater, it still may be a drinking water contaminant. Many thousands of miles of municipal supply and waste water lines were built with asbestos cement pipe (also known as transite pipe). Corrosive water, common in New England, liberates asbestos fibers in this type of pipe and transports them to households. The actual breakdown process can be caused by one of the following: a scrubbing action caused by water velocity at the perimeter of the pipe or a break down of the Portland Cement Asbestos Fiber Binder either mechanically or chemically. It has been estimated that approximately 5 percent to 10 percent of the population nationwide may be drinking water that contains greater than 300,000 asbestos fibers per liter.

The current asbestos fiber content of drinking water that is permitted according to the Summary of United States Environmental Protection Agency (EPA) Required, Recommended, and Proposed Drinking Water Standards for Community Water Supply Systems are 7.1 million fibers/liter unlimited consumption. Medical studies have determined that the risk level for a person consuming 2 liters of water/day contaminated with 300,000 asbestos fibers/liter for 70 years would have a one (1) in 100,000 chances of developing gastrointestinal cancer. In most cases, the fibers would simply pass through the digestive tract and be discharged as body waste. The probability of asbestos contaminated sludge from a waste water treatment plant creating a problem by reintroducing the fibers to the earth's atmosphere is considered insignificant, according to researchers at Cornell University, Ithaca, N.Y.

Based on the results of a number of health studies, it is recognized that asbestos can endanger human health. The inhalation of asbestos fibers in high concentrations is known to cause a debilitating and irreversible respiratory illness known as asbestosis, as well as lung cancer and

mesothelioma cancer. The latency period associated with these diseases can involve several decades. Because inhalation is the exposure route of concern, it is important to prevent asbestos fibers from becoming airborne, being directly contacted, or entering surface waterways.

In the early 1970s, the use of asbestos in the United States peaked at about 800,000 tons/year. The USEPA became concerned at that time with the disease-causing potential of asbestos by airborne fibers. Regulatory action, combined with voluntary initiatives, lowered the annual United States use to 217,000 tons/year in 1983. On July 12, 1989, the USEPA issued a final rule under Section 6 of the Toxic Substance Control Act (TSCA) to prohibit, at staged intervals, the future manufacture, importation, processing, and distribution of commerce in the U.S. of most asbestos containing products. This rule was challenged in court by the asbestos product manufacturers and on November 5, 1993 the USEPA confirmed that in court proceedings the references to phase and ban of asbestos products in section 6 of the 1989 TSCA were overturned. Asbestos products such as asbestos pipeline wrap, vinyl/asbestos tile, asbestos wall board, asbestos clothing, asbestos-cement corrugated and flat sheeting asbestos roof belt, and asbestos-cement shingles can continue to be manufactured in the United States. Therefore, asbestos will continue to be a component of various industrial waste streams and a contaminant of industrial areas and industrial waste sites. Construction and demolition debris dumps are facilities where asbestos is often improperly disposed after removal from schools, workplaces, dwellings, and other structures.

Categories of Asbestos Containing Material (ACM)

Friable ACM means any material which contains more than 1 percent asbestos and can be crumbled, pulverized, or reduced to powder by hand pressure.

Nonfriable ACM means any material which contains more than 1 percent asbestos and cannot be pulverized under hand pressure. Nonfriable ACM is divided into two categories. Category I includes packings, gaskets, resilient floor covering, and asphalt roofing products. Category II is any nonfriable ACM not included in Category I.

Regulated Asbestos Containing Material (RACM) includes:

a. friable asbestos material;
b. category I nonfriable asbestos materials (packings, gaskets, resilient floor coverings and asphalt roofing products) that have become friable;

c. category I nonfriable asbestos materials that will be, or have been, subjected to sanding, grinding, cutting, or abrading; and

d. category II nonfriable asbestos materials (any nonfriable asbestos materials not included in category 1) that have a high probability of becoming or have become crumbled, pulverized, or powder by the forces expected to act on the material in the course of demolition or renovation operations.

Removal

Removal of nonregulated asbestos materials can be legally performed by homeowners, regular contractors, or licensed asbestos abatement contractors so long as each does not violate the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations (Refer to 40 CFR Part 61, Subpart M) and the work complies with the Occupational Safety and Health Administration (OSHA) regulations delineated in 29 CFR 1926.1101. The State of New

Hampshire requires the removal of asbestos prior to any demolition work (Refer to the N.H. Code of Administrative Rules Part Env-A 1805.09). During demolition, problems with friable material are most often caused by fiber release resulting in a violation of the NESHAP regulations. Problems with nonfriable asbestos are most often associated with a breakup of materials which may contaminate the surrounding materials making it necessary to treat all demolition debris as contaminated material.

Although the health risk involved in handling nonfriable, non regulated asbestos material is small, the removal of nonregulated material should be done in a manner that will minimize the release of fibers due to breakage. In recognition of the fact that some breakage will occur during any removal job, the State recommends that one wear asbestos related safety equipment including a disposable tyvek suit, gloves, and must be medically able to wear a half mask respirator with High Efficiency Particulate Air (HEPA) filters, and adhere to the principles of wet removal and "no visible emissions".

With one exception, the removal of RACM in workplaces, schools, public facilities, and dwellings must be done by licensed asbestos abatement contractors after notifying the NH Department of Environmental Services (DES). The one exception is an individual homeowner, with no tenants, doing removal work at his/her own residence. This type of removal, if undertaken by the homeowner, should be done only after thorough preparation from an informational, educational, and equipment perspective.

A listing of licensed asbestos contractors can be obtained by contacting the Department of Health and Human Services at 603-271-4609. Indoor asbestos removal methodology is administered by the New Hampshire Department of Environmental Services, Air Resources Division, (603-271-1370), while the outdoor methodology is administered by the Waste Management Division (603-271-2925).

Packaging

All asbestos containing material must be placed wet into labeled leak-tight containers or bags for transport to the landfill. For small quantities/components DES requires the use of double impermeable bags of at least 6 mil thickness each or their functional equivalent, and which are sealed. Large components or structural members may be wrapped in two layers of 6 mil sheeting, secured with tape, and labeled prior to disposal. Prepackaged and labeled asbestos waste items are then transported in containers or truckbeds lined with two layers of 6 mil sheeting. For bulk unwrapped asbestos placed directly in waste disposal containers the Department requires the use of two 10 mil poly liners or the functional equivalent. Use of "bladder bags" for asbestos disposal is permitted under DES regulations. Containers must be labeled to read "Danger - Contains Asbestos Fibers; Avoid Creating Dust; Cancer and Lung Disease Hazard"; have a Class 9 hazard label and have the name of the property owner and location where the waste was generated. For further information request a copy of Fact Sheet WMD-ASB-13.

Transporting Asbestos

Transportation of asbestos waste is not specially regulated by the New Hampshire Department of Safety (DOS) which can be reached at 603-271-2447. There is a one pound reportable spill quantity for friable asbestos which requires calling the National Response Center (NRC) at 1-800-424-8802 and the DOS Hazardous Material Emergency Response Team at 1-800-346-4009 should a spill occur. Also, the asbestos generators are responsible for ensuring that a proper spill cleanup is conducted. For further information request a copy of Fact Sheet WMD-ASB-13. Please note, there are federal regulations relating to the transportation of asbestos waste.

Disposal

Asbestos is regulated as both a solid waste and a hazardous air pollutant in the State of New Hampshire. It must be disposed in a manner that will prevent fibers from becoming airborne. At present, the most cost effective method of disposal is by burial. Although this generally means the removal, transportation, and off-site landfilling of materials, there are certain instances where asbestos was used as a fill material and the sites are closed by covering the material in place. The State of New Hampshire currently has a number of municipal and commercial landfills which are permitted to accept asbestos for disposal. (Request a copy of Fact Sheet WMD-ASB-14 for a complete listing.)

Town Responsibility: According to New Hampshire Law, RSA 149-M:17 titled *Town Responsibility and Authority* "each town shall either provide a facility or assure access to another approved solid waste facility for its residents." This means that the towns have a responsibility to ensure that their residents can properly dispose of asbestos waste, but does not require the towns to actually own or operate such facilities.

Limited Service Area Landfills: Permitted limited service area landfills may generally accept small amounts of asbestos waste (1-2 cubic yards) provided the waste was generated within the area serviced by the landfill. Arrangements to use the facility should be made by calling at least 24-hours in advance so provisions can be made to promptly bury the asbestos. It is the responsibility of the person conducting the asbestos removal project to properly package and handle the asbestos prior to burial. Respirators used during removal should be brought to the landfill for use by those off-loading the material. Most municipal landfills will not accept asbestos from contractors, preferring that contractors (because of the volumes they handle) do business at commercial landfills.

Unlimited Service Area Landfills: The unlimited service area landfills will accept large amounts of asbestos provided it is properly contained or shipped in bulk. Since they are permitted to handle asbestos in undefined quantities, they may or may not handle small quantities.

Further Information

For more information on removal, handling and disposal of asbestos material, contact:

N.H. Department of Environmental Services
Waste Management Division
29 Hazen Drive, P.O. Box 95
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(603) 271-2925 FAX (603) 271-2456
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